

DESCRIPTION OF THE COURSES

- Course code: ELR2564
- Course title: ELECTRIC POWER SYSTEMS 1
- Language of the lecturer: english, polish

<i>Course form</i>	<i>Lecture</i>	<i>Classes</i>	<i>Laboratory</i>	<i>Project</i>	<i>Seminar</i>
<i>Number of hours/week*</i>	2				
<i>Number of hours/semester*</i>	20				
<i>Form of the course completion</i>	<i>examination</i>				
<i>ECTS credits</i>	4				
<i>Total Student's Workload</i>	120				

- Level of the course (basic/advanced): basic
- Prerequisites: Mathematics, Physics, Electric Circuit Theory, Basic Informatics
- Name, first name and degree of the lecturer/supervisor: Prof. Marian Sobierajski, Ph.D., D.Sc. Associate Professor
- Names, first names and degrees of the team's members: Prof. Artur Wilczynski, Ph.D., D.Sc., Associate Professor, Robert Lis, Ph.D, Robert Łukomski, PhD
- Year:.....3..... Semester:.....6.....
- Type of the course (obligatory/optional): obligatory
- Aims of the course (effects of the course): Skill of the analysis of modern power systems.
- Form of the teaching (traditional/e-learning): traditional
- Course description: Introduction to transient phenomena in power systems - small and large disturbance stability. Quality of electricity supply. Voltage regulation in power systems. Frequency control in power systems. Electrical energy market.
- Lecture:

<i>Particular lectures contents</i>	<i>Number of hours</i>
1. Modern transmission and distribution systems. Scheme and equivalent parameters.	2
2. Load flow computation in radial and meshed networks.	2
3. Balanced and unbalanced short circuit analysis.	2
4. Angle and voltage stability.	2
5. Energy quality. Energy market.	2

- Classes – the contents:
- Seminars – the contents:
- Laboratory – the contents:
- Project – the contents:
- Basic literature:
 1. Machowski J., Bialek J. W., Bumby J. R., Power System Dynamics and Stability. John Wiley and Sons 1997.

2. Sobierajski M., Łabuzek M., Lis R., Electric Power System Analysis in Matlab, Wroclaw University of Technology, 2007.
 3. Kremens Z., Sobierajski M., Electric Power Analysis. WNT 1996 /in polish/
- Additional literature: An academic book on Electrical Power System Analysis.
 - Conditions of the course acceptance/creditation:

Positive note of examination

* - depending on a system of studies